

# Neanderthals made tools from bone, not just stone, study says

By Los Angeles Times, adapted by Newsela staff

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This photo provided Monday, Aug.12, 2013 by Pech-de-l'Aze Project shows a classic Neanderthal cave site of Pech-de-l'Aze, southwestern France, where a bone tool called a lissoir was recently found. This tool was dated to approximately 50,000-years old.

LOS ANGELES—Scientists in Europe say they found strong evidence that Neanderthals made their own specialized tools from bones.

The find adds to the evidence that Neanderthals were more advanced than previously thought. They may not have been the brutish, club lugging ape-men shown in movies. Neanderthals are the closest extinct human relative.

Archaeologists said they discovered four pieces of bone tools known as lissoirs at two Neanderthal sites in southwestern France. They described the findings in a science magazine.

The pieces are the oldest specialized bone tools found in Europe, said archaeologist Marie Soressi of The Netherlands.

## Bone Tools Used In Leatherwork

Before this, tools dug up where Neanderthals used to live were almost exclusively made of stone. Bone tools were more common at early modern-human sites. So many scholars believe that Nean-

derthals adopted the technology from their more advanced relatives.

But the recently found lissoirs are about 41,000 to 51,000 years old. They could have been in Europe before modern humans got there. So Neanderthals might have figured out how to make the tools themselves, Soressi and her team wrote.

“I don’t think that the image of the brutish or stupid Neanderthal is true anymore,” said Paola Villa of the University of Colorado Museum of Natural History.

Ancient lissoirs were made from animal ribs. Leather workers probably scraped the tools against hides to create shinier, waterproof leather. Craftspeople still use lissoirs today.

Soressi’s group found the first piece of a lissoir at an excavation site in southwestern France in 2005. Archaeologist William Rendu noticed the unusual piece of deer rib. He saw that its shape and markings weren’t what would be found in a deer’s body. They did not come from the bone being worn away by sand and stone, either, he said.

The small piece was examined under a microscope. The piece had a worn edge and a polished surface. Those characteristics suggested that it had come from a tool.

#### Not Just Copies Of Stone Tools

“It was obvious it was a lissoir,” Soressi said. Lissoirs in use today have a similar design.

The ancient piece was probably a tip that had broken off, she said.

Then the researchers made their own lissoirs and scraped them against animal hides. They compared their tools to the piece they had found, using a microscope. The tools showed the same signs of wear.

Soressi shared her findings with Shannon McPherron. He is an archaeologist from Germany who was researching Neanderthal behavior at a nearby site.

McPherron and his coworkers began searching his site for lissoir pieces too. The group found three over the next seven years, and confirmed they too were from leather-working tools.

“We didn’t expect to find these bones,” said McPherron. “We were thrilled.”

Archaeologists had discovered bone tools at Neanderthal sites before. But these were the first that weren’t just copies of existing stone tools, McPherron said. They were designed to take advantage of bone, McPherron said.

Ribs can bend a bit. Stone can’t, he said. You want the bone to bend a little bit when working with an animal skin, he explained.

## Shows Advanced Behaviour

Tests showed one of the lissoirs came from 51,000 years ago. Modern humans did not get to Europe until thousands of years later. This suggests that our ancestors may have adopted the practice of making bone tools from the continent's earlier Neanderthal inhabitants.

Or modern humans arrived earlier than previously thought, and influenced the Neanderthals, Soressi said.

"It's a hard call," said Donald Henry. He's an archaeologist from the University of Tulsa in Oklahoma. Henry said most of the evidence suggested that Neanderthals adopted the technology from modern humans.

But it does not matter if Neanderthals had copied things from modern humans. It would not mean that modern humans were better, Henry said. "There are many examples of human societies adopting technologies from other societies," he said. That doesn't mean "that the ones who adopted it were stupid."

There is other evidence that Neanderthals showed advanced behavior. They used tree resin as glue. They waterproofed their boats with pitch, Villa said.

"Maybe they didn't have opera, but they weren't dumb," Henry added. "They survived hundreds of thousands of years. We haven't done that yet."

## Quiz

1. According to the article, scientists believe Neanderthals were more advanced than previously thought for all of the following reasons, EXCEPT:
  - (a) They made their own special tools from bone.
  - (b) They made their own special tools from stone.
  - (c) They made tools to take advantage of the bone.
  - (d) They made glue from tree sap.
2. Select the paragraph from the article that provides the MOST evidence that Neanderthals may have figured out how to make tools themselves rather than learning from their advanced relatives.
3. Scientists believe that the lissoirs were used for:
  - (a) waterproofing boats
  - (b) making leather strong
  - (c) waterproofing leather
  - (d) making tools from animal ribs
4. According to the article, all of the following characteristics led scientists to believe that the deer rib was a tool, EXCEPT:
  - (a) The surface of the rib was polished.
  - (b) The rib had strange markings.
  - (c) The edge of the rib was worn.
  - (d) The rib was extremely small.

## Answer Key

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